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(54) Title: AUTOMATIC OR SEMIAUTOMATIC TRANSLATION SYSTEM AND METHOD WITH POST-EDITING FOR THE CORRECTION OF ERRORS

(Z)

(57) Abstract: A computer translation system having viewing means on monitor of a translation-interface involving a couple of text-columns, wherein each text-column includes parallel scrolling field means, characterized in that said couple of text-columns is divisible horizontally, to realize at least two couples of parallel scrolling fields, forming at least temporarily a "+"-structure in which, one pair of scrolling fields is below for translation and correction after translation, forming a couple of main translation and correction fields (F1, B-U) and the second pair is over these for accumulation of what is translated, checked and corrected, forming a couple of accumulating fields (A1, U/Z) and wherein, said translation system has transfer means (Memline) to progressively transfer the couples of top paragraphs of said main translation and correction fields (F1, Z) to said accumulating fields (A1, Z).

DESCRIPTION

AUTOMATIC OR SEMIAUTOMATIC TRANSLATION SYSTEM AND METHOD WITH POST-EDITING FOR THE CORRECTION OF ERRORS

This invention relates to an automatic or semiautomatic translation system and method with post-editing for the correction of errors.

In particular the invention refers to an improved computer translation system and method with intervention of the operator to obtain a high professional level translation quality depending on the capacity of the operator who checks the translation of the computer.

Technical field

The technical field consequently is of high professional translation level in the field of the computer assisted translation, starting from a text of a certain language, memorised or able to be memorised in the computer, to produce texts in other languages in a manner checked by the operator.

The method is preferably used, even if not exclusively, in the field of translation

- automatic translation with post-editing that is with post-editing operated by the operator,

- semiautomatic or interactive translation always with check by the operator during the evolution of the translation.

Background art

Evolution

The inventor realised, in 1987, an automatic translation system, today known on the market as "Hypertrans", which is able to operate on Macintosh by Apple Computer Inc. Cupertino California US.

At that time translators in DOS system were known but without analysis of the sentence, that is word by word, therefore without big substantial instructions but only using searching in a file and changing with the

1 existing translation corresponding to the consultation dictionary, as there

2 was the well known limit of 750 K.

3 Small sentence translators also existed at that time, but were based on the

4 memory a limited number of more frequently used sentences.

5 At that time there also existed systems for translation with analysis of the

6 sentence, however only on large computers or mainframe, as for example

7 "Systran" translator system.

8 Other systems were not known on the market and possible patented ideas had

9 not found concrete application.

10 After experimentation and placing of the system on the market, this had

11 continuous improvements particularly in the technological field, to be

12 considered today worldwide, as the most qualitatively advanced technological

13 professional translation system in all the combinations of the main European

14 languages EN,DE,FR,IT,ES.

15 During the years an important improvement was made to the system for

16 interactive translation giving the possibility of memorisation of sentences

17 for their eventual reuse as for example "Translation manager" of the IBM

18 "International Business Machines", as one can also see from the following

19 disclosure of the prior art.

20 Even if this methodology gave a great qualitative advantage of the

21 translation, it had the inconvenience of the low probability level that the

22 sentence memorized could be repeated frequently, so the system is used only

23 for translations which are repetitive, as for example the translation of the

24 instruction manuals of the machines, etc.

25 All the techniques known up to now freed the way to post-digiting or post-

26 editing, which in any way had to be made manually by the operator after the

27 translation in the same program (basic translation software) or in any word

28 process system. The subsequent completion times of a translation of a high

1   professional level involved the sum of the translation time plus the final

2   check and correction time, so, to date the sum of these two times is not

3   competitive with the translation operated directly by skilled-person who

4   knows both languages very well.

5   The known system product by the same inventor and known on the market as

6   "Hypertrans" operating on MAC computers of the Apple Computer of

7   Cupertino California US, is today a highly professional system of maximum

8   quality, particularly directed to the technical field, such as patents.

9   It is able to translate with couples of bi-directional modules in any

1 0   combination of English, German, French, Italian and Spanish, and also

1 1   Portuguese.

1 2   This system of maximum professional level is able to supply to the operator, a

1 3   very high quality grade, but the time required for the completion of the

1 4   translation in perfect mode, that is machine time + man time (included the

1 5   check and final correction), is always high, particularly for the final

1 6   correction in post-editing.

1 7   This invention is particularly directed to the reduction of this post-editing

1 8   time that is the human correction time.

1 9   Prior art

2 0   In prior art there exist a plurality of machine translation systems.

2 1   Well-known are the following:

2 2   US-5510981 ; Oct. 28, 1993; (International Business Machines

2 3   Corporation, Armonk, NY);

2 4   Regarding a language translation apparatus and method using context-based

2 5   translation models.

2 6   In particular :

2 7   An apparatus for translating a series of source words in a first language to a

2 8   series of target words in a second language. For an input series of source

1 words, at least two target hypotheses, each including a series of target words,
2 are generated.

3 Each target word has a context comprising at least one other word in the
4 target hypothesis.

5 For each target hypothesis, a language model match score including an
6 estimate of the probability of occurrence of the series of words in the target
7 hypothesis.

8 At least one alignment connecting each source word with at least one target
9 word in the target hypothesis is identified. For each source word and each
10 target hypothesis, a word match score including an estimate of the
11 conditional probability of occurrence of the source word, given the target
12 word in the target hypothesis which is connected to the source word and
13 given the context in the target hypothesis of the target word which is
14 connected to the source word. For each target hypothesis, a translation
15 match score including a combination of the word match scores for the target
16 hypothesis and the source words in the input series of source words.

17 A target hypothesis match score including a combination of the language
18 model match score for the target hypothesis and the translation match score
19 for the target hypothesis. The target hypothesis having the best target
20 hypothesis match score is output.

21   US-5384701 - June 7 , 1991

22   in the name of British Telecommunications public limited company, London,
23 England

24 Regarding a Language translation system,

25   and in particular :

26 A language translation system for translating phrases from a first language
27 into a second language comprises a store holding a collection of phrases in
28 the second language.

1 Phrases input in the first language are each characterized on the basis of

2 one or more keywords, and the corresponding phrase in the second language

3 is output. Such a phrasebook approach enables what is effectively rapid and

4 accurate translation, even from speech.

5 Since the phrases in the second language are prepared in advance and held

6 in store, there need be no problems of poor translation or ungrammatical

7 construction.

8 The output may be in text, or, using speech synthesis, in voiced form. With

9 appropriate choice of keywords it is possible to characterize a large number

10 of relatively long and complex phrases with just a few keywords.

11 US-5338976 - June 16, 1992

12 In the name of Ricoh Company, Ltd., Tokyo, Japan

13 Regarding an Interactive language conversion system;

14 and in particular :

15 A language conversion system includes a database of expression patterns in

16 the object language, a relevance evaluation mechanism for evaluating a

17 relevance of each expression patterns in the object language with respect to

18 an input in the original language, a retrieval and identification mechanism

19 for retrieving and identifying from the input in the original language

20 information requested by the expression pattern in the object language

21 required to generate an output in the object language, a selection mechanism

22 for selecting the expression pattern in the object language conforming to

23 the input in the original language depending on the relevance evaluated in

24 the relevance evaluation mechanism, an output mechanism for generating

25 the output in the object language based on the required information

26 retrieved and identified from the input in the original language by the

27 retrieval and identification mechanism, and a control mechanism for

28 controlling operation sequences of the relevance evaluation

1 mechanism, the retrieval and identification mechanism, the selection

2 mechanism and the output mechanism.

3 　　　US-5659765 : Machine translation system

4 in the name of Toppan Printing Co., Ltd., Tokyo, Japan

5 FILED on Mar. 14, 1995

6 Claiming:

7 A machine translation system comprising :

8 first input means for inputting a first character string written in a first

9 language;

10 　　　second input means for inputting a second character string written in

11 a second language;

12 　　　display means for simultaneously displaying the first and second

13 character strings input from said first and second input means;

14 　　　linking means which has first designating means for designating a

15 third character string included in the first character

16 　　　string displayed by said display means, and second designating means

17 for designating a fourth character string included in the second character

18 string displayed by said display means, and links the third and fourth

19 character strings with each other;

20 　　　recording means for recording the third and fourth character strings

21 linked by said linking means as a pair; and

22 　　　means for detecting the character string which is most similar to an

23 original character string written in the first language from a plurality of

24 recorded third character strings, and translating the original character

25 string into a character string written in the second language by using a

26 fourth character string linked with the detected character string.

27 　　　US-5426583 - Jan. 27, 1994 -

28 in the name of Uribe-Echebarria Diaz De Mendibil; Gregorio, Erandio, Bilbao,

7

1   Spain

2   Regarding Automatic interlingual translation system.

3   Claiming

4   A method for use in a computer to automatically translate a first text based on

5   a source language to a second text based on a different target language, said

6   method comprising the steps of:

7   (a) analyzing said first text to achieve an arborescent-type

8   clarification on morphological, syntactical and semantic characteristics of

9   said first text;

10   (b) translating the analyzed text to a first intermediate language,

11   wherein said first intermediate language contains structural characteristics

12   of said source language;

13   (c) integrating the translated text into an interlingual, wherein said

14   interlingual contains morphological, syntactical,

15   and semantic features of a plurality of languages;

16   (d) translating the integrated text to a second intermediate language,

17   wherein said second intermediate language contains structural

18   characteristics of said target language; and

19   (e) converting the translated, integrated text to said second text.

20   US-4604698 - Dec. 22, 1983 -

21   In the name of Sharp Kabushiki Kaisha, Osaka, Japan

22   Regarding an Electronic translator including character input keys for

23   inputting a first language word, a translator for translating the inputted

24   first language word into the second language word, a retranslator for

25   retranslating the second language word back to the first language word, and

26   a display unit for displaying the inputted word, translated word and

27   retranslated word.

28   US-4439836 Oct.- 22, 1980 -

1   In the name of Sharp Kabushiki Kaisha, Osaka, Japan

2   regarding an Electronic translator, claiming :

3   An electronic translator device for obtaining a second word represented in a

4   second language equivalent to an input

5   word in a first language, comprising :

6   input means for entering the input word;

7   first memory means for memorizing a plurality of first words in the

8   first language, each of said first words

9   comprising one or more first letters which remain unchanged

10   regardless of inflection and one or more second letters which change

11   according to inflection;

12   address means operatively connected to said input means and

13   responsive to entry of the input word for addressing

14   said first memory means to develop one of the plurality of first words;

15   detection means operatively connected to said first memory means and

16   responsive to said address means for

17   detecting eqivalency between the input word and said first letters of

18   respective first words;

19   second memory means for memorizing a plurality of second words in

20   the second language corresponding to first

21   words stored in said first memory means;

22   first means operatively connected to said detecting means for

23   activating said second memory means whereby said

24   second memory means develops a second word corresponding to the

25   input word when the input word is equivalent to one of said first words; and

26   second means operatively connected to said detecting means for

27   indicating that one of said first words in said first memory means comprises a

28   noninflected form of the input word.

1   US-4633435 - July 22, 1985 -

2   In the name of Sharp Kabushiki Kaisha, Osaka, Japan

3   Regarding an Electronic language translator capable of modifying definite

4   articles,

5   and in particular regarding an electronic translator is featured in which

6   sentences as stored are modified by replacing one or more words in one of

7   the original sentences with one or more new words and by changing

8   automatically one or more additional words in the original sentence,

9   depending on the nature of the one or more new words entered in the

10   sentence. For example, the one or more additional words may be definite

11   articles or prepositions.

12   US-4831529 - Feb. 12, 1987 -

13   In the name of Kabushiki Kaisha Toshiba, Kawasaki, Japan

14   Regarding a Machine translation system

15   Claiming :

16   A machine translation system for translating a first language into a second

17   language, which comprises:

18

19   input means for entry of an original written sentence in the first

20   language into the system;

21   dictionary means having at least a first dictionary for storing various

22   words in various parts of speech and their

23   translation in the second language respectively corresponding to the

24   words in the first language, and a second

25   dictionary for storing various words designated as nouns corresponding

26   to words in the first language;

27   translation means for analyzing the original written sentence in the

28   first language, for retrieving said dictionary means and for executing the

1   translation processing of the input original, when any same word designated

2   as nouns stored in the first dictionary is found in the second dictionary, the

3   word stored in the second dictionary takes precedence over that in the first

4   dictionary in the translation means; and

5   output means for producing translated sentences in the second language

6   obtained from said translation means.

7   US-5020021 - Jan. 10, 1986-

8   In the name of Hitachi, Ltd., Tokyo, Japan

9   regarding a System for automatic language translation using several

10   dictionary storage areas and a noun table,

11   And in particular regarding a A translation method for a machine

12   translation system provided with apparatus for parsing a source language

13   sentence and for forming a target language translation in which a phrase

14   omitted in the source language sentence is identified, and a word or phrase to

15   be inserted for the omitted phrase is selected from stored words and phrases.

16   For identifying an omitted phrase, a sentence pattern corresponding to a

17   predicate in the source language sentence is formed so as to include not only

18   cases governed by the predicate but also a semantic feature for each case. By

19   comparing the source language sentence with the sentence pattern, a case

20   which is omitted in the source language sentence but cannot be omitted in

21   the target language translation is identified. For determining a word or

22   phrase to be placed at the position of the omitted phrase, the nouns having

23   appeared in the source language text is stored in a noun, together with the

24   semantic feature, gender, person and number of each noun is searched for a

25   noun having the same semantic feature as the omitted phrase. When a target

26   language translation of the source language sentence is formed, a pronoun

27   having the same gender, person and number as the omitted phrase is used as

28   a target language equivalent for the omitted phrase, and thus a target

1   language translation which is grammatically correct, is obtained.

2   US-5093788 - June 25, 1987 -

3   In the name of Sharp Kabushiki Kaisha, Osaka, Japan

4   Regarding a Translation machine system with splitting and combining of

5   sentences.

6   And claiming

7   An electronic translation machine system for translating multiple sentences

8   from a source language to a target language comprising:

9   input means for inputting a plurality of source sentences;

10   first buffer means in communication with said input means for

11   storing said source sentences;

12   position designation means coupled with said first buffer means for

13   designating a division point separating a selected

14   source sentence into parts and for inserting a position designation

15   symbol in said selected source sentence;

16   splitting means in communication with said first buffer means for

17   scanning said selected source sentence for said

18   position designation symbol and, once encountered, for splitting said

19   selected source sentence into parts and for

20   storing said parts in said first buffer means; and translation means for

21   translating the parts of said selected source sentence stored in said buffer

22   means from said source language to said target language.

23   US-5175684 - Dec. 31, 1990 -

24   In the name of Trans-Link International Corp., Honolulu, HI

25   Regarding an Automatic text translation and routing system,

26   Claiming:

27   A machine translation system comprising:

28   a machine translation module which is capable of performing machine

1   translation from input text of a source language to output text of a target

2   language, said machine translation module having a plurality of target

3   language submodules for performing machine translation into a plurality of

4   different target languages;

5   a receiving interface for receiving via a first telecommunications link

6   an electronic input which is divided into pages,

7   said input pages including a cover page having predefined fields

8   containing system information therein and at least one text page in a source

9   language, wherein said cover page includes at least a first predefined field

10   designating an address of an addressee to which translated output text is to be

11   sent, and a second predefined field designating a selected one of the plurality

12   of different target languages into which the at least one text page is to be

13   translated, and

14   wherein said receiving interface includes a recognition module

15   capable of electronically recognizing the address of the addressee designated

16   in said first predefined field of the cover page of the received input pages,

17   and the selected target language designated in said second predefined field of

18   the cover page;

19   a sending interface for sending output text generated by said machine

20   translation module to an addressee via a second telecommunications link; and

21   control means coupled to said receiving interface, said machine

22   translation module, and said sending interface for recognizing the address

23   and target language designated in said predefined fields of said cover page,

24   for controlling said machine translation module to generate output text of

25   the designated target language from the input text of the source language,

26   and for operating said sending interface to automatically send the translated

27   output text via the second telecommunications link to the designated address

28   recognized from said predefined fields of said cover page.

1   US-5303151 - Feb. 26, 1993 -

2   In the name of Microsoft Corporation, Redmond, WA

3   Regarding a Method and system for translating documents using translation.

4   Claiming:

5   A computer system for translating a source language document written in a

6   source language to a target language

7   document written in a target language, the source language including a

8   multiplicity of source terms and the target language

9   including a multiplicity of target terms, the computer system including a

10   display screen, the source language document, a

11   product glossary having a plurality of source terms from the source

12   language and a plurality of target terms from the target

13   language, each source term being associated with the corresponding target

14   term which translates the source term into the

15   target language, the computer system comprising:

16   means for producing a translation screen portion on the display

17   screen, the translation screen portion including a current insertion point;

18   means for displaying the source language document on the translation

19   screen portion;

20   means for comparing each of the plurality of source terms from the

21   product glossary with the source terms in the source language document;

22   inserting means for inserting a character adjacent to the source term

23   in the source language document, in response to each comparison by the

24   comparing means which produces a match between one of the source terms

25   in the source language document and one of the source terms in the product

26   glossary;

27   means for associating in an index file the inserted character with a

28   target term from the product glossary that translates the matched source

1   term from the source language into the target language;

2   means for inputting an insert target term command which contains a

3   translation request character corresponding to the inserted character;

4   means for retrieving the translation request character from the insert

5   target term command;

6   means for retrieving from the index file the target term associated

7   with the retrieved translation request character; and

8   means for inserting the retrieved target term on the translation

9   screen portion in response to the insert target term command.

10   Drawbacks of the state of the art

11   The drawbacks of the state of the art consist substantially in the fact

12   that the current systems or translation methods do not allow the operator to

13   reach a suitable working performance with high quality level of the

14   translation if not at a very long time detriment for the necessary correction

15   work of the skilled man, in particular we. have observed that as the automatic

16   translation, or semiautomatic translation, namely for fragments or

17   sentences, it is never perfect, and has a lot of errors, one loses a lot of time to

18   correct the text in post-editing, to adapt it to an acceptable quality level.

19   Further even if one provides with a translation for fragments or sentences

20   or paragraphs in continuous succession (machine-aided translation or

21   interactive translation), in the same way one loses a lot of time for

22   corrections, and this. also for the repetition of cases, precisely repetition of

23   the same type of translation mistake, that instead man, should not repeat

24   because he is an intelligent being, while the computer will endlessly repeat

25   the same mistake, unless the programmer who has supplied the operating

26   instructions to the program does not intervene.

27   The operator unfortunately cannot intervene in the programming system of

28   which is equipped the respective translation engine.

1   But even if the programmer could intervene, the time required for

2   reprogramming or teaching of the new case, the check of the functionality

3   and the advantage that one wants to obtain therefrom become inadmissible.

4   In fact the mistake generated by the computer in the translation is likely to

5   derive as an incorrect or ambiguous exposition, also grammatical in the text

6   to translate, and even if only for that kind of text, as it is well known that

7   when the human being writes he does not think about the rules, but writes

8   on impulse and the cases of not respecting the rules are innumerable and

9   always increasing, without considering the ambiguities and the plurality of

1 0 meanings for the same word or expression.

1 1 Consequently wanting to foresee and encode everything is impossible for the

1 2 large number of possible combinations

1 3   When a text already edited is checked, the correction time is therefore

1 4 always high even if there are automatic search replace engines.

1 5   In fact the current automatic search and replace engines require to

1 6 input the correction manually and each time, eventually upon selection of

1 7 the text to correct.

1 8 The quality of the search and replace often generates other errors due to the

1 9 necessary adapting of what has been changed in the specific context in said

2 0 position, being many times obliged to adapt the changing portion in

2 1 accordance to the preceding text portion and to the following text portion.

2 2 Today the systems for translation are very fast and require a time lower than

2 3 reading the text to translate (Eg. ten pages few minutes): The quality of the

2 4 resulting translation by automatic translation is not acceptable for the

2 5 skilled man, and it needs a lot of time for correction (Eg. for 10 pages 4-5

2 6 hours) and this is because the skilled-translator man, always needs time to

2 7 read, interpret, and then check up if the automatic translation system has

2 8 made good or bad corrections, and then to provide always to the correction of

1   what translated automatically.

2   Therefore a lot of expert translators prefer to renounce to automatic

3   translation because they use more time to correct than to do a direct

4   translation without the use of the automatic or semiautomatic translation.

5   The problem of the reduction of the translation time at a parity with the best

6   resulting quality from the human translation is always in need, particularly

7   for the current globalisation of the markets and unification of the people

8   who speak different languages.

9   Consider for example the global communications, laws, patents, etc, where

10   the quality of the translation should be at a maximum level.

11   Purpose of the present invention

12   Purpose of the present invention is to avoid the above-mentioned

13   drawbacks and allow the obtainment of a perfect translation or in any way a

14   high quality translation, namely at human level, or better, with the use of

15   the automatic translation system or semiautomatic translation and

16   comparatively in less time.

17   Therefore the main purpose of the present invention is to use the

18   automatic or interactive-semiautomatic computer translation but with strong

19   reduction of the translation time and with the maximum obtainable quality

20   with the intervention of the same skilled-operator.

21   Essence of the invention

22   The problem is solved with a system as claimed in claim 1, namely with

23   a computer translation system having viewing means on monitor of a

24   translation-interface involving a couple of text-columns, wherein each text-

25   column includes parallel scrolling field means, characterized in that said

26   couple of text-columns is divisible horizontally, to realize at least two couples

27   of parallel scrolling fields, forming at least temporarily a "✚"-structure in

28   which, one pair of scrolling fields is below for translation and correction

1   after translation, forming a couple of main translation and correction fields,

2   and the second pair is over for accumulation of what translated checked and

3   corrected, forming a couple of accumulating fields, said computer translation

4   system having transfer means to progressively transfer the couples of top

5   paragraphs of said main translation and correction fields to said

6   accumulating fields.

7   In this way checking and correction is more easy and fast, because of

8   continuous alignment of top paragraphs of the main translation and

9   correction couple of fields, making easy check between correspondent words

10   and sentences of two parallel top-paragraphs of the entire text, strongly

11   reducing in time. Furthermore transfer of checked top-paragraphs to the

12   bottom accumulating fields, in adding to the accumulating fields, allow more

13   easy checking and correction of remaining text in said main fields, this

14   working being repeated until the entire text has been line-by-line checked,

15   corrected and transferred to said accumulating fields (in technical speaking

16   "line by line",= paragraph by paragraph, because in electronic word

17   process, a "RETURN" delimits a Complete Paragraph ="LINE").

18   Advantageously said translation system is endowed with moving means to

19   move said couple of accumulator fields from immediately above said couple of

20   main translation and correction fields to another place or disappear, said

21   transfer means being anyway able to work to transfer paragraphs from

22   main couple to the accumulator couple.

23   In this way it is possible to check, paragraph by paragraph, the whole

24   translation, transferring the checked text, paragraph by paragraph ("line-

25   by-line" in computer programming) to said accumulating fields, reducing in

26   checking-time over to 50% and obtaining better performance.

27   A progress of translation is advantageously shown using a paragraph-

28   coupnter means, indicating the number of checked paragraphs and the

1   number of remaining to check and evidencing means of modified text in said

2   couple of main translation and correction fields. In this way further

3   reduction in the checking time is allowed because operator see immediately

4   what remains to check.

5   Advantageously the computer translation system is of the type having

6   viewing means on monitor of a translation-interface involving a " **T** "

7   structure, where the upper bar of the " **T** " is a line of control buttons and

8   the vertical shank is a dividing line forming a couple of text-columns,

9   wherein each column includes scrolling field means proportioned in the

10 width to the length of the text contained in rapport to the opposed parallel

11 one, characterized in that said couple of text-columns is divisible

12 horizontally forming a "**T**" —structure for having four scrolling fields in a

13 form of at least two pairs of parallel scrolling fields, one pair below for

14 translation and correction after translation forming a couple of main

15 translation and correction fields and over this a second pair for

16 accumulation of what translated checked and corrected, forming a couple of

17 accumulating fields.

18 The solution process provides an automatic/semiautomatic translation

19 method, for processing the translation in the desired language, of the type

20 utilizing a translation system which comprises means of automatic or

21 semiautomatic translation and means to allow the correction of the

22 translation operated by the computer and means to implement the

23 dictionaries in the computer, and word process means in post-editing for the

24 check and the final correction with eventual activation of automatic search

25 and replace, characterised by:

26 - integrating the said post-editing in a single ensemble with the translation

27 system, and

28 - identifying and memorize each correction that is carried out in post-

1   editing, and in a single operation,

2   - activating the search and replace of the said mistake in the text in

3   correction, and

4   - activating the memorisation of the correction carried out to said translation

5   system with integration of one or more program semantic codes,

6   - in order to obtain at the same moment and directly connected to the

7   respective correction, not only the extension of same correction to the text in

8   post-editing, but also the autolearning of the correction itself to said

9   translation system.

10 In this way one has the advantage of a continuous improvement of the

11 quality of the translation and of a continuous reduction of the errors and

12 consequent reduction of the total time for obtaining the text not only

13 translated but also checked and perfectly finished.

14   Advantageously the method provides on the inside a translation system

15 that includes :

16 - at least one electronic dictionary with correct translation of sentence

17 fragments, sentences and words, associated, for each translation, to a

18 programming semantic code, that activates during the translation of a text or

19 text portion, a respective adapting program of the translation in progress to

20 the preceding text portion and/or to the following text portion in function of

21 the specific features;

22 - means for the treatment of translation phrase by phrase of the text to

23 translate with sequential analysis of the subsequent words and/or sentence

24 fragments within the extent of treatment of the respective sentence,

25 associated to comparing means of the said words or sentence fragments, to

26 individuate materially or virtually also with declination or base or root, their

27 presence into said electronic dictionary, to make possible a sequential

28 translation;

1 - processing means of the translation on the base of the said dictionary and

2 of the corresponding said program semantic codes:

3 - with eventual adapting of the current translation to the preceeding text

4 portion and to the text portion that follows the one in processing and,

5 - with eventual adapting in accordance of the current translation also of the

6 part already translated;

7 - output means to memorize and show the operated translation;

8   characterized by providing:

9 - a plurality of said program semantic codes, each associated to a respective

10 translation software with different modality, said modality being known to

11 the operator that operates the translation in order to allow the use of one or

12 the other code or the combination of more codes to define a certain

13 translation software for a specific text portion;

14 - memory means of the carried out corrections and, on request of the

15 operator;

16 - activation means of an autolearning program which was previously

17 corrected,

18   - determining the new teaching to operate, enclosing:

19 - the text portion that contains said correction, and

20 - the corresponding original text portion that had to be translated; and

21   - inputting one or more program semantic codes at this new teaching

22 to be added in said electronic dictionary, in order that said teaching deriving

23 from previous correction can be reutilized immediately in the following

24 translation.

25 In this way the system retrieves automatically not only the correction

26 operated by the human operator as traditionally used, but on OK of the

27 operator, also utilizes this correction remembering it as a new teaching

28 avoiding the subsequent repetition of the translation mistakes made by the

1   computer.

2   In this way the translation system becomes substantially intelligent as is

3   endowed with autolearning and the translation in this way will continuously

4   improve, and more corrections and teachings will be done and better will be

5   the result, reducing progressively the errors made and allowing a sensible

6   reduction of time for the completion of the translation at a level of human

7   quality;

8   Advantageously the system further provides on the inside :

9   - activation means, on command, after the correction, of the following steps:

10   - individuate the last change made on the text comparing the original

11   previous text and the modified text;

12   - propose in a dialog box the previous text and the modified text or the text to

13   modify, if signaled;

14   - on acceptance, make an automatic search and replace in the entire text

15   already translated.

16   In this way the correction times reduce furthermore, with important

17   productivity advantages.

18   We carried out translation tests with post-editing after automatic translation

19   with the new process on a Mac G3 Computer at 400 MHz for the same sample

20   patent-disclosure of 10 pages:

21   - with the interactive traditional system: the translation time + the hand-

22   operated post-editing time was of two hours;

23   - with the new system the time used resulted in half an hour.

24   - the increase in productivity resulted therefore in the 400%, as it is not only

25   the number of the corrections that reduces, but also and above all the stop

26   and consulting times for each correction.

27   Advantageously the method provides on the inside the option of the

28   fully automatic or semiautomatic translation. In this way it is possible to

1 operate in accordance to the specific requirements, with the difference that

2 with the automatic translation the signalled errors will be eliminated only in

3 the next text to translate, while with the interactive or semiautomatic

4 translation the errors are eliminated during the translation itself as they

5 appear.

6   The method includes the visualization on the screen of a first scrolling

7 field to receive the text to translate and a second scrolling field to show the

8 translation, one adjacent and parallel to the other, which proportion

9 automatically in the respective width in a manner inversely proportional to

10 the length of the two texts. In this way one has the immediate advantage to

11 supply a fast and immediate confront line by line, of the original text in

12 respect of translated text substantially at the same height, being further

13 provided in parallel sliding means of both the fields.

14 With such solution one has the advantage of a faster confront improving

15 considerably the correction times. In fact the difficulty in the translators

16 that must check the original text with the translation to follow step by step

17 the original text and the translated text is known, and sometimes one loses

18 therefore weary and precious minutes only to find where the original word

19 corresponding to the one translated.

20   In order to further speed-up and individuate the missing words not

21 translated the system provides automatically the conversion of their writing

22 in bold or italic or different colour, facilitating and speeding up furthermore

23 the system for the search and the individualization of the parallel

24 correspondence between the two words/expressions in the parallel fields.

25   More advantageously the method provides automatic unloading and

26 charging means for the text to translate and for the translated text

27 respectively, fragmenting it, in at least 5 couples of memory fields, each field

28 providing substantially the contents of 30000 characters (about. 20 pages).

1   In this way one has the advantage to supply the possibility to the operator to

2   treat also large texts (Eg. up to 100 pages at a time), with the same quality and

3   without danger to make errors in the reconstruction of the translated text.

4   More advantageously one provides over the couple of the said translation

5   main fields, at least a couple of accumulator fields, namely with accumulating

6   function similarly placed in parallel and of same width of the said couple of

7   main fields to be used :

8   - both for interactive translations with correction during translation,

9   - and for correction in post-editing after the automatic translation.

10 In this way the accumulator system loses nothing because of break-off of the

11 course of the translation always allowing to take up at any time without

12 losing anything. Furthermore one always has the advantage of a perfect

13 line-out of the remaining paragraphs still to correct, that progressively pass

14 to the couple of the said accumulator fields.

15   More advantageously under the said translation main fields, a couple

16 of text fields remaing to translate is provided.

17 In this way the program operates interactively transferring progressively a

18 paragraph at a time, from the couple of interesting lower fields, in one or

19 into the other, the text to translate, to said couple of the main fields to make

20 the translation and the following correction, being before the translated and

21 corrected text in said fields, moved to the said couple of said accumulator

22 fields.

23 In this way one has the additional advantage of a complete visualisation both

24 the translated text, and the text in progress of translation, paragraph by

25 paragraph, therefore with best visualisation for checking in parallel.

26   Advantageously in a window in turn the number of the checked and

27 translated paragraphs and the number of the paragraphs remaining to

28 translate are indicated.

1   In this way one has the advantage of always having under control the

2   amount of time needed to complete the work.

3   More advantageously the method provides for each correction carried

4   out in the translated text, besides the integrated search replace and of

5   autolearning options, the autoactivation of the differentiation of the

6   characters of the corrected word / fragment and corresponding portion of

7   the text to translate putting them in distinguishable characters by the rest of

8   the text, as for example bold, italics or other colour.

9   In this way it is immediately signalled to the operator up to where the

10   corrections have been made, facilitating and reducing therefore the time

11   required to complete the work. In fact skilled persons know the time that one

12   wastes if one forgets where he was and this particularly in the treatment of

13   long texts, as for example the patents.

14   Advantageously the method provides the addition for each teaching

15   different possibilities of translation of the same text with separate

16   corresponding program semantic codes.

17   In this way, in function of the programmed option the system can choose the

18   one or the other translation according to the context.

19   More advantageously the method includes the possibility to impute

20   different teaching depending on context, Eg. electric, electronic, chemical,

21   mechanic, aeronautic, ... , medical, sporting, clothing, legal, spoken or

22   speech, etc., each able to be activated by a code previously assigned to or

23   from the translation itself in relation to the type of translation. In this way

24   for different subjects a translation correspondingly different is supplied

25   (personalization). It is known in fact that for example the patents are

26   classified according to an international coding for different technological

27   sectors (IPC code). Each category of patents has a code, so imputing before

28   the translation said code, if it regards a document that relates to electronics

1   the system will translate in one manner or the other (Eg chips=patatine for

2   the alimentary (food) domain and chips=chips for the electronics etc.)

3   More advantageously the method and respective system provide in the

4   machine-aided translation the translation by the said charger, paragraph by

5   paragraph, namely one paragraph at a time, allowing in turn the correction

6   with autolearning (self-learning).

7   In this way one has the great advantage of considerably better performing

8   the quality of the translation and to speed-up furthermore the correction

9   and translation time as, thanks to the first error corrections at the

10   beginning of the translated text, the system learns automatically, and at

11   once, memorizes this kind of text and utilizes these teachings immediately in

12   the prosecution of the translation in the same text.

13   Without autolearning the quality of the automatic translation always remains

14   the same, so if an automatically translated patent has 60 corrections to be

15   made in the first page and its length is of 10 pages, the total corrections to be

16   made are approximately 60 errors/page x 10 pages = 600 corrections to

17   correct, while with the autolearning already in first page the errors are

18   reduced by half as the translation is carried out paragraph by paragraph,

19   and in the following pages the errors continuously reduce the half of the

20   half as the previous half has already been eliminated and cannot repeat, and

21   so forth so far as to reach a physiological minimum that generally is not

22   lower than 10%, so with the invention one has a total of errors to correct

23   equal to (30 first page + 15 second page + 8 third page + 6 x 7 remaining pages

24   = 95 corrections.

25   Therefore a saving of 600-95=505 errors on 600, equal to theoretically over 80

26   % less of corrections, to say one increases the productivity of 500% namely

27   five times.

28   As a matter of fact one must consider a greater time lost for the teaching that

1   one can estimate not lower than 20% of the correction-time, maximum 30%,

2   so one returns to what was experimented, namely to an increasing of

3   productivity, if the time lost for the teaching is of 30%, of (600/95) x 0,7 =

4   442%. As a matter of fact the advantage will be as much and as high as the

5   number of the corrections to be made and so much higher is the number of

6   the pages to translate.

7   It is obvious instead that such advantage reduces considerably for automatic

8   translations in which the number of corrections is much more limited, or if

9   the translation is very short, Eg. some paragraphs.

10 In such case the advantage that we can obtain is only to increase the

11 performance in productive quality of the automatic translation of the system.

12   To reduce at most the times and have optimal quality, there is provided

13 means which make possible, after the automatic translation of the entire text

14 and subsequently, the sequential post-editing with correction and checking

15 from skilled man, by means of correction with autolearning and

16 autoreplacing paragraph by paragraph, cancelling progressively the couple

17 of the checked paragraphs and transferring them in said couple of

18 bunching fields.

19 In this way one has the advantage of having as the previous one, the

20 immediate parallel visualisation of the paragraph to translate and what

21 translated for the contribution of the corrections but with the additional

22 advantage to be able to also see the whole text that follows both for the field

23 to translate and for the translated. With this solution particularly the check

24 and comprehension times from the operator if what has been translated and

25 corrected are reduced, having a more wide view of the entire text, of what is

26 in translation and of what is following during translation.

27   In connection with the above one provides the confront of the

28 following automatically translated paragraph with the corresponding

1 paragraph on the screen, in order that if they do not correspond, for

2 eventual operation of automatic search-replacing, one remake automatically

3 the retranslation with the new teachings, reducing in such case

4 furthermore the number of corrections that one must do.

5 This solution, if it requires more time for the retranslation, of the paragraph

6 concerned, provides a possibility to the operator to evaluate the correct

7 learning and eventually readapt it with a new teaching that, according to the

8 system, can be changed or customized for the specific case.

9 More advantageously in the system a third confrontation field to

10 associate to the first two is provided, in order to introduce the correct text of

11 the translation from another outside operator and this in order to operate

12 interactively by confrontation and when non correspondence is detected,

13 activate the respective proposals of autolearning of the teachings deriving

14 from the outside corrections.

15 In this way one has the advantage to be able to use teachings also coming

16 from the exterior of the system, for example by control carried out not in the

17 same batch, but for example for the post-editing on other machines for

18 example connected via internet.

19 In conclusion with this method, not only the quality of the translation is

20 sped-up and improved, but one provides the possibility to the operator to

21 personalize and implement progressively during the translation itself or

22 even later, not only the missing words or the usual and repetitive sentences

23 as in the known systems of the prior art, but also sentence fragments, which

24 thanks to the respective programming semantic code supplied by the

25 operator himself, but also suggested by the program during the context

26 analysis of the translation, of the prefixes, of the endings, etc:, can insert

27 and automodify itself in adequate manner in the following translations and

28 in the same following of the translation in progress.

1   Thanks to the well known repetition of countenances in the documents in

2   translation, the system adapts automatically and rapidly to the new

3   translation sector giving, after the first steps of translated text, a

4   progressively best resulting translation level and absolutely incomparable

5   in quality level with reference to any currently known translation system.

6   The tests carried out have supplied amazing results that even after a

7   small amount of translation the errors made for sentence drop to a minimum,

8   reaching almost immediately the errors average value for sentence between

9   1 and 2, to then reach the errors value for sentence > 1.

10 Preferred   variations

11   Advantageously in the system is comprised:

12 *). a checking window of the autolearning with three lines for checking,

13 correction and input:

14   • one as fragment of phrase of the text to translate;

15   • one as fragment of phrase translated in a correct way, object of the

16 correction in progress or already carried out;

17   • one as programming semantic code.

18 **). the in-line consulting of dictionary with alternative translations.

19 ***). during the correction in post-editing:

20   • determining the position of the cursor in the correction area or

21 otherwise if memorized a portion by evidencing, calculating automatically

22 the number of the paragraphs and corresponding sentences and words

23 number of the translation, from the origin and,

24   • on the base of the correspondence of the punctuation positions,

25 supply in a window on the screen:

26   • the sentence portion previously evidenced in the interested

27 correction area individuated by the presence of the cursor from the last

28 correction or previously evidenced, and

1 • the sentence corresponding portion of the document to translate,

2 - in order to allow to the operator to: delimit evidencing the fragment of

3 phrase corresponding to that interested by the correction.

4 This automizing and speeding up the search and the input of the

5 autolearning

6 ****). Over the said couple of fields a control-bar for control operations

7 forming substantially a "T" base interface in which the upper cap of the "T"

8 is the control-bar by means of the association of push-buttons and fields and

9 the shank of the "T" divides substantially the right-hand field/s by the left-

10 hand field/s of the said couple of main fields regarding the document to

11 translate in progress and its translation, is further provided.

12 In this way all is reunited and integrated in a maximum control and working

13 performance.

14 Description of at least one form of realization of the invention

15 These and other advantages will appear from the following description

16 of concrete solutions wherein:

17 Figures from 1 to 18 represent the visualisation of the window interface of

18 the translation system with two columns, therefore realised according to the

19 method as in the present invention in different processing steps

20 respectively from (A) to (R), with the visualisation of the only two

21 proportionally parallel correction and translation main fields.

22 Figure 19 shows the electronic dictionary to accumulate the autolearnings.

23 Figure 20 (Rif.T), represents a view in which appears on the screen the

24 shape, always respecting the two columns, but with two couples of scrolling

25 proportioned fields, namely with four scrolling fields, respectively the said

26 couple of the translation and correction main fields and above this the

27 couple of accumulator fields of what translated, checked and corrected, in

28 order to avoid waiting time of the previous line by line translation system,

1   allowing the translator, in this waiting time, to read the previous translation

2   during retranslation.

3   Figure 21 (Ref. U), represents a view of the system in which appears on the

4   screen the shape always with two columns but with three couples of

5   scrolling proportioned fields, namely six fields respectively the said couple

6   of the translation and correction main fields and above this the couple of

7   accumulator fields of what was translated, checked and corrected, and under

8   the couple of the said main fields the said couple of fields including in one or

9   into the other the remaining text to translate.

10   Figure 22 (Ref. V), represents what appears on the screen when one asks the

11   representation option of the confrontation with a translated and corrected

12   text outside the system, namely with three columns instead with two, where

13   the third column is that of the outside translated and corrected text, utilized

14   for the confrontation with the couple of main columns as in previous

15   figures.

16   Figure 23 (Ref. Z), represents a four-fields view during a correction in post-

17   editing with automatic passing of the text corrected by the couple of

18   translation and correction main fields (F1, B/U) to the accumulation upper

19   couple (A1 Ref. U Fig. 21).

20   As disclosed in the figures from 1 to 18, and particularly from Fig.2, the

21   system includes substantially at least two columns, comprising at least two

22   scrolling parallel main fields, one adjacent to the other (F1, B/U) one for the

23   text to translate and one for the translated text to correct.

24   In head under the line of the controls there are to the right and to the left of

25   the charging fields (C1, C2, C3, C4, C5) to charge with the import control

26   button the text to translate up to 100 pages (20 pages per field) in order to

27   translate automatically or semiautomatically as from the option (A) of Fig.1.

28   The text in progress of translation passes from chargers (C1, C2, C3, C4, C5), to

1   the couple of the translation main fields. (F1, B/U). Once the translation and

2   correction has been completed, the couple of the texts passes to the couple of

3   accumulator fields (A1), that can shift: from small under the control-bar

4   (adjacent to said chargers), to proportioned over the same couple of

5   translation main fields (A1,F1, Ref. U Fig.21) .

6   One can also charge a text directly in a main field of the main couple of the

7   translation fields (F1, B/U) and obtain the translation into the opposite main

8   field of the said main couple (F1).

9   Analogously any combination of charger fields can happen (C1, C2, C3,C4,C5)

10 toward the main fields (F1, B/U) and then pass to opposite side of the main

11 fields couple in logical sequence and flow finally in the opposite charging

12 fields.

13 As for example if one has to translate from Italian one will activate the

14 direction from right button towards the left button as in the figures from 1 to

15 18, see indication evidenced by the top right arrow button in the control line

16 (From English to Italian is the contrary).

17 Once the work is completed one can use the Export control button ("Exp" =

18 Export).

19 The system is divided by modules, each including a couple of languages,

20 therefore in the representation is shown a single one of the operative

21 modules that concerns in a reversible way the translation from English to

22 Italian or vice versa.

23   Also the dictionary (S Fig19) is double, one for the Italian towards

24 English and one for English towards Italian (the disclosed is for the

25 translation from English towards Italian).

26 Both have a series of fields:

27 - for searching the single words during translation (1),

28 - for the text portion that follows the word under consideration (up with five

1   words for a total of six), (2);

2   - for the base standard translation (3);

3   - for the program

4   semantic code/s   (4) and

5   - for alternative translations personalized with operative sectorial codes, (for

6   example electronics, physical, chemistry, etc.) (5).

7   We can give also two codes and two different translations to each teaching as

8   for example able to be read in field (S column 3) Eg. "cart" = "trasportare,

9   carro" with the attributed codes "verbinfcon" and "soms", to say that the first

10   word is an infinitive verb that one must conjugate in conformity with the

11   context of the sentence and in particular with what precedes it, while

12   alternatively one must translate as singular male noun and adapt obviously

13   possible articles, pronouns etc front in the part already translated in

14   conformity, move behind possible adjectives arranging them, etc..

15   These codes are supplied by the operator during the autolearning, and they

16   are determinant and indispensable for having an excellent quality of the

17   result.

18   As for example "ag4" means adjective with 4 declensions, "ag2" adjective with

19   two declensions, "ag1" invariable adjective.

20   Similarly the code-prefix "verb" indicates that we have a verb, the

21   prosecution with "con" means that the verb has to be conjugate, the

22   prosecution with "inf" means that the current verb is an infinitive verb, the

23   intermediate fragment "ing" means that the current verb is a gerund, the

24   intermediate fragment "pass" means that the current verb is a past verb, etc.

25   Eg. if the code that writes the operator, in the autolearning during post-

26   editing, is "verbls/p2432", it means that the system must adopt the adapting

27   program of the verbs in which Ref.""1s/p" give an order to the program to

28   adapt the first word to context of the sentence in the sense of the

1   singular/plural conjugation, the following number "24" give the order to the

2   program about the second word informing it that is a past participle and

3   obliges the program to accord it in conformity to four solutions (Eg. a, e, i, o,

4   for Italian language), while the third word "32" gives the order to accord

5   only in two solutions: plural and singular.

6   These codes are a lot and the operator can arrange them in different way, as

7   an object programming language, but in which the sequence modules of the

8   program are already inserted and therefore the operator knows the result

9   that he is going to obtain, not needing to be a programmer.

10 Naturally above there is a control-bar that allows the operator to operate

11 changes at will, on all the fields that are obviously in a parallel scrolling

12 form for exact alignment correspondence.

13 Coming back to the main translation interface (Fig.2), it has been claimed

14 that the fields of each couple (F1, B/U) self-adjust in the width inversely

15 proportional to length of the texts of the couple, in order to always supply

16 the same number of lines (scrolling height pitch) to facilitate confrontation

17 and reduce the correction check times in post-editing.

18 The couple of accumulators (A1, Ref.U Fig.21) have instead the intermediate

19 function to accumulate the sentences in turn that are translated and

20 corrected.

21 The control bar of the main interface, also has a lot of figurative control

22 buttons, as for example parallel field-couples scrolling controls, their

23 alignment, the interface changing in size, the search and replace control

24 "RS", capital to small letter change, the transfer control between fields and a

25 Data File, the copy pastage controls, the word counting, the lock/unlocking,

26 the spelling, the "cut-returns" for the arrangement of texts from "DOS"

27 system having one return per line, that causes illogical analysis of the

28 sentence, and the different controls of what to carry out the translation, as:

1   "START" for starting or to take up a translation from the position in which

2   one was remained before;

3   "LineByLine" to proceed paragraph by paragraph,

4   "TQ" for the interactive translation system in Total Quality, where each

5   fragment between punctuation is submitted before registering it in the

6   opposite field during control and check of translator for the correction and

7   autolearning;

8   "MemLine"   (Checking Action Mode) that allows after an automatic

9   translation the transfer into the couple of accumulator fields (A1), line-by-

10   line (namely paragraph by paragraph) the checked and corrected

11   paragraphs from main fields couples (F1) to accumulator field couple (A1);

12   "Trans1Lm" that activates the automatic retranslation of the selected

13   paragraph;

14   The visualisation controls of two or four or six fields "2/4" and "2/6".

15   Unwinding of the method in interactive translation paragraph by paragraph

16   (example from Italian English of this invention with activation of the right

17   upwards arrow and without visualisation of the options 4 and 6 fields, namely

18   in the less reduced shape with visualisation of only two main fields of

19   translation and correction.

20   Fig.1 text to translate is loaded (C1 see Fig.2), if it is longer then 20 pages, it is

21   divided occupying the adjacent fields (C2, C2, ... etc.), the "START" button is

22   pressed and a window appears (A) that indicates the mode that one wants to

23   operate, namely interactively "TOTAL QUALITY" or paragraph by paragraph

24   "LineByLine" or in automatic way "Automatic", in the last case "LineByLine"

25   button is pressed and the translation starts developing paragraph by

26   paragraph coming from the field of the right chargers (C1) and outputting

27   paragraph by paragraph in the main fields (F1, B/U) in a fully automatic

28   way, these steps develop instantaneously, given the speed of the current

1   processors, therefore the operator has not practically waiting times;

2   Fig.2 each paragraph (paragraph is intended as a line, in "word Process",

3   namely from return to return) is shown for the correction of the operator

4   indicating in bold the missing words ("semantico") and in italics in the

5   opposite side (the same not translated word "semantico"), in this way the

6   operator has the possibility to see immediately the missing word Ref. (B);

7   Fig.3 the operator directly corrects the single word, and the system will

8   autolearn it, or can signal the whole sentence fragment defining univocally

9   in a correct way the translation (C), in such case,

1 0 Fig.4, the system immediately opens a window and asks if one wants the

1 1 automatic change (D);

1 2 Fig.5, completed the search-replacing (RS), the system asks if one wants the

1 3 autolearning proposing the programming semantic code, that can be

1 4 modified by the operator the same for the teaching, and with "OK", the system

1 5 completes the autolearning (E) and

1 6 Fig.6, unedrlines what corrected from both sides (F),

1 7 Fig.7, continuing to push the button "LineByLine" the translation develops in

1 8 the same way until the end,

1 9 Fig.8, finding translation errors we always can correct and teach them to the

2 0 the system in a similar way (H);

2 1 Fig.9, if the system is unable to trace in an identical way the exact

2 2 corresponding text portion to the correction, it asks the operator in window

2 3 to evidence the corresponding portion (I);

2 4 Fig.10, and then asks the authorization to the autolearning (J);

2 5 Fig.11,12,13, the system asks also the authorization to change what was

2 6 corrected for the whole translation (K,L.M);

2 7 Fig.13, once the corrections have been terminated one continues in this way

2 8 until the end of the text.

1 Carrying out the method with automatic pre-translation

2 The method provides first the automatic translation option in the window (A),

3 then

4 Fig. 13, it provides the entire automatic translation of the text in the main

5 fields (F1, B/U) for the correction (M);

6 Figg.14,15,16,17, the operator checks and corrects paragraph by paragraph

7 as in the previous solution, with the sole difference that behind it one has

8 always the possibility to see the whole text to check on both fields.(N,O,P),

9 proceeding till end.

10 Preferred alternative representation of the user interface

11 The representation (interface), as said may be:

12 - with sole two fields (restricted and small screen) or

13 - four-fields (figure 20) where above the main couple (F1, B/U) the

14 accumulating field couple of what translate and checked (A1) is applied, or

15 - with six fields (Figure 21), in which over to the four of the previous

16 solution, a further couple of fields containing on one or on the other the

17 remaining text portion to translate (L1 Ref.U Fig.21).

18 The six field solution being obviously the best for a more complete

19 visualisation of the translation and correction in progress and of the

20 remaining portion to translate.

21 Coding examples of behaviour or semantics of the teachings

22   Basic possible codes are innumerable as already explained, for example

23 in the field of nouns "soms" , "somp", "sofs", "sofp" is provided, that are the

24 masculine and feminine combined with the singular and plural, and

25 additionally able to be combined with Eg, "somsn" word group as a

26 substantive (noun) that does not shift (because it is not associable with

27 adjectives), "sofpnn" as previously but already containing the article,

28 "somsNP" as proper noun, etc. or "ax2", "ax4" for words and sentences in

1   which one requires an adapting of the endings to that which will be

2   subsequently translated (Eg in accordance to a next substantive), or "ag1",

3   "ag2", "ag4" to be accorded and moved to the substantive, or "nexinf" to oblige

4   the following choice in translation to infinitive or "nexverb" to oblige the

5   choice of the next translation to qualify as a verb, or "nexfut" to condition

6   the next to past tense, etc. as an encoded language that in turn transmits the

7   activations of the program similarly to the human intelligence and to the

8   human structure as noticeable for example in a Dna, but electronic, where its

9   manipulation is directly allowed by the operator who manages the

10 translation.

11 In this way it has been shown to reach very high levels of translation

12 because the more the computer works the more it improves becoming ever

13 more intelligent, but on the condition that the operators who uses it, correct

14 it and teach it how it must behave from that moment on, exactly as one does

15 with a child.

16 Advantageously the operative sectorial codes as said are classified according

17 to the international patent classification or in any event for sectors, able to

18 be customized (A - Eg, "Electronics 10-H03" where 10 is the assigned code, H03

19 corresponds to the code of the international patent classification Ipc).

20 Subdivision of the sectors (the following shows a form of subdivision for

21 sectors that the operator selecting, automatically activates before

22 translation):

23   1   B62 Vehicles, Veicoli, Véhicules, Fahrzeuge, Vehículos

24   2   B61 Railways, Ferroviario, Chemin de fer, Eisenbahn, Ferrocarril

25 . 3   B63   Marine, Hydraulics, Marina, Marine, Eaux, Hydraulik,

26 Wasserwirtschaft

27   4   B64 Aerospace, Aérospatiale, Luftfahrt/Raumfahrt, Aerospacial

28   5   A/B/F/G Technology, Tecnologia, Technique, Technik

1   6   C21/C30   Metallurgy, Metallurgia, Metallurgie, Metalurgia

2   7   E21   Mining, Minerario, Minières, Bergbau, Mineras

3   8   E01/E06   Building, Edilizia, Construction, Bauwesen, Construcción

4   9   H01/H02   Electricity, Elettricità, Electricité, Elektrik, Electricidad

5   10   H03   Electronics, Elettronica, Electronique, Elektronik, Electrónica

6   11   H03   Informatics, Computer, Informatica, Informatique, EDV

7   12   H04   Telecommunications, Mail, Telecomunicazioni, Telekommunikation,

8   Telecomunicaciónes

9   13   D02/D07   Textile, Clothing/Wearing, Tessile-Abbligliamento, Textilien,

10   14   G03   Film /Camera, Fotocinematografia, Cinéphotographie, Kino/Foto

11   15   A63   Sport /Amusement Sport/Divertimento, Sport/Jeux,Sport und Spiel,

12   Deporte y juegos

13   16   C01/C14   Chemistry, Chimica, Chimie, Chemie, Química

14   17   A01   Agriculture Vegetal, Agricoltura-Vegetali, Agriculture/Plantes,

15   Landwirtschaft-Pflanzen

16   18   D21-B30/B44   Editing/Paper, Editoria/Carta, Editions/Papier,

17   Verlagswesen/Papierindustrie, Edición/Papel

18   19   F41/F42   Military / Guns/Explosives, Militare/Armi/Esplosivi,

19   Militaire/Armes/Explosifs, Militär, Militar/Armamientos/Explosivos

20   20   G12/21   Nuclear /Physics/Atomics, Nucleare, Nucléaire, Kernkraft/Physic

21   21   G10 Music /Arts, Musica/Arti, Musique/Arts, Musik/Kunst, Música/Artes

22   22   Legal /Law, Legale/Legge/Diritto, Droit, Recht, Derecho

23   23   G06   Accounting/Mathematics, Contabilità/Matematica,

24   Comptabilité/Mathématique,Buchhaltung/Mathematik,Contabilidad/Matemáti

25   ca

26   24   Business /Correspondence/Mailing, Commerciale/Affari/Epistolare,

27   Commerce/Correspondance, Handel/Briefe, Comercio/Correo

28   25   A61/63 Man, Corpo/Uomo, Homme, Mensch/Allgemein, Hombre/Cuerpo

1   26   A61/63 Food, Alimentazione, Alimentation, Essen, Alimentatión

2   27   A61 Medicine /Health/Pharmaceutics/Drugs, Medicina/Farmaceutica,

3   Médecine, Medizin

4   28 . Religion , Religione

5   29 . Insurance, Assicurazione, Assurances, Versicherungen, Seguros

6   30 . Banking /Financial , Bancario/Finaziario, Bancaire, Möbel

7   31   A01-A61 Animals , Animali, Animaux, Tiere, Animales

8   32   C07/14 Biology /Genetics, Biologia, Biologie

9   33 . Geography /Tourism, Geografia/Turismo, Geographie/Tourisme

10   34 . Linguistics, Sprachwissenschaft

11   35 . Literature

12   36 . Politics

13   37 . Colloquial, Umgangssprache

14   38   A24 Tobacco, Tabac, Tabakwaren

15   39 . Dialog, Dialogo, Diaqlogue

16   39 . Personal, Personale, Persönlich"

17   The method is applied to a computer comprising an automatic translation

18   system having on a monitor, a "T"-shape translation interface wherein the

19   upper bar of the "T" is a line of control-buttons and the vertical bar of the "T"

20   is a dividing line forming two columns inversely proportioned in width to

21   the length of the respective contained text (column having longer text is

22   wider than parallel column that contains a shorter text), where the two

23   columns are divisible horizontally in pairs of parallel-scrolling fields,

24   involving at least a couple of main translation fields (F1, B-U) and above it a

25   couple of accumulator fields (accumulating fields) of what has been

26   translated and checked (A1,U).

27   Being able to show an additional couple of scrolling fields below the main

28   translation fields (F1, B/U) and with same proportionment of the above, to

1   include in one or the other the text portion to translate (L1,U).

2   Advantageously after transfer the checked top pararaphs text-couple

3   from the said main couple of fields (F1-Z) to the bottom of said accumulating-

4   fields couple (A1), said automatic retranslation is operated on the first top

5   paragraph of the said main couple of fields (F1-Z) of the remaining text to

6   check, in order that in the respective retranslation, waiting time, the

7   operator is allowed to read the previous translation and prepare oneself for

8   amendments after issue of said retranslation in the first paragraph.

9   In this way the Operator does not lose time in waiting for retranslation,

10 because he uses the waiting time to read the top-paragraph to check.

11 When retranslation has been made (instantly) first translated paragraph is

12 exchanged with the new first paragraph coming from said better performed

13 retranslation (because said autolearning), and finally allowing instantly to

14 amend the retranslated top-paragraphs, in the usual autolearning way,

15 before continuing in transfer from said couple of main fields (F1-Z) to said

16 accumulating couple of fields (A1-Z). Obviously, the operator is not allowed to

17 make amendments ,during retranslation.

18 Before checking paragraph by paragraph, said retranslation is made only if

19 the interested paragraph to check contains text portions already subjected to

20 previous amendements and autolearning, made between the full automatic

21 first translation and the moment to check.

22 In this way retranslation is avoided if the interested top paragraph does not

23 contain text portions involved in previous autolearning subject matter. So

24 retranslation is automatically operated only if necessary.

25 This solution allows further reduction in waiting time.

1   Claims

2   1. A computer translation system having viewing means on monitor of a

3   translation-interface involving a couple of text-columns, wherein each text-

4   column includes parallel scrolling field means, characterized in that said

5   couple of text-columns is divisible horizontally, to realize at least two couples

6   of parallel scrolling fields, forming at least temporarily a "✝"-structure in

7   which, one pair of scrolling fields is below for translation and correction

8   after translation, forming a couple of main translation and correction fields

9   (F1, B-U) and the second pair is over these for accumulation of what

10   translated checked and corrected, forming a couple of accumulating fields

11   (A1,U/Z) and wherein, said translation system has transfer means (Memline)

12   to progressively transfer the couples of top paragraphs of said main

13   translation and correction fields (F1) to said accumulating fields (A1).

14   2. A computer translation system according to claim 1, having viewing means

15   on monitor of a translation-interface involving a "T" structure, where the

16   upper bar of the "T" is a line of control buttons and the vertical shank is a

17   dividing line forming a couple of text-columns, wherein each column

18   includes scrolling field means proportioned in the width to the length of the

19   text contained in rapport to the opposed parallel one, characterized in that

20   said couple of text-columns is divided horizontally forming at least a "✝"

21   -structure for having four scrolling fields in a form of at least two pairs of

22   parallel scrolling fields, one pair below for translation and correction after

23   translation, forming a main couple of translation and correction fields (F1,

24   B-U) and over this a second pair for accumulation of what translated checked

25   and corrected, forming a couple of accumulating fields (A1,U), and wherein

26   evidencing means of modified text in said couple of main translation and

27   correction fields is further provided.

28   3. A computer translation system according to previous claims characterized

1   for having paragraph-counter means to show the number of remaining

2   paragraphs to check during checking and correction.

3   4. A computer translation system according to previous claims, characterized

4   by having means to show for an additional couple of scrolling fields below

5   said couple of main translation and correction fields (F1, B-U) to include in

6   one or the other the text portion to translate (L1,U).

7   5. A computer translation system according to previous claims, characterized

8   by having correction-autolearning means and retranslation means to

9   retranslate at least the first paragraph to check in said couple of main

10   translation and correction fields (F1, B-U).

11   6. An automatic/semiautomatic translation method, according to previous

12   claims, for translating text from one language to another, of the type

13   utilizing a system which comprises means of automatic or semiautomatic

14   translation and means to allow the correction of the translation operated by

15   the computer and means to implement sentence/word dictionary/ies into the

16   computer system, and word process means in post-editing for check and

17   correction the mistakes of what has been translated with eventual activation

18   of automatic search and replace, characterized by :

19   - integrate the said post-editing in a single ensemble with the translation

20   system, and

21   - identify and memorize the correction that is carried out in post-editing, and

22   - activate the search of said mistakes and replace with said corrections in the

23   said translated text, and

24   - activate the memorizing of said correction in said translation system with

25   integration of one or more program semantic codes,

26   - in order to obtain in the same moment, directly connected to the respective

27   correction, not only the extension of same correction to the text in post-

28   editing, but also, in the same time, the autolearning of the correction itself to

1   the said translation system.

2   7. An automatic/semiautomatic translation method, for the translation in the

3   desired language, according to previous claim, of the type utilizing a system

4   that includes:

5   - at least one electronic dictionary for correct translations of words,

6   sentence-fragments and sentences, associated for each standard translation

7   to a program semantic code, that activates during the translation of a text or

8   text portion (F1, B-U), a respective adapting program of the translation in

9   progress to the preceding text portion and/or to the following text portion in

1 0 function of the specific features;

1 1 - means for making the translation, phrase by phrase, of the text to translate

1 2 with sequential analysis of the following words and/or sentence-fragments

1 3 within the extent of treatment of the respective sentence, associated to

1 4 comparing means of said words or sentence-fragments, to individuate

1 5 materially or virtually also with declination or base or root, their presence

1 6 into said electronic dictionary (1,2), to make possible a sequential translation;

1 7 - processing means of the translation on the base of said dictionary and of

1 8 the corresponding said program semantic codes:

1 9 - with eventual adapting of the current translation to the preceding text

2 0 portion and to the text portion that follows that in translation-processing

2 1 and,

2 2 - with eventual adapting in conformity of the current translation also of the

2 3 part already translated;

2 4 - output means to memorize and show the translation made;

2 5 characterized by providing furthermore:

2 6 - a plurality of said program semantic codes (soms, sofs, somsn, sofp,

2 7 verbinfcon, verbinfcon2, ag4 ax4 ....), also variously combined together as a

2 8 language, each code or each portion code being associated part to a

1   respective translation software with different modality of translation; said

2   modality being known to the operator that operates the translation in order

3   to allow the use of one or other code or the combination of more codes to

4   define a certain translation software for a specific text portion or sentence

5   fragment;

6   - memory means of the carried out corrections (F1, B-U) and, on request of

7   the operator:

8   - activation means of an autolearning program as far as immediately

9   previously corrected (E),

10   - determining the new teaching to operate comprising:

11   - the text portion that contains said correction, and

12   - the corresponding original text portion that had to be translated, and

13   - imputing one or the combination of more than one of said program

14   semantic codes to this new teaching for adding in said electronic dictionary

15   (1,2,3,4,5), in order to be able to be reutilized immediately in the following

16   translation.

17   8. A method according to previous claims, characterized by having:

18   - activation means, on command, after the correction, of the following steps:

19   - individuate the last change made on the text comparing the original

20   previous text and the modified text;

21   - if indicated (E), propose in a dialog window the previous text and the

22   modified text or the text to be modified (D);

23   - on acceptance (OK), make an automatic search and replace in the whole text

24   already translated.

25   9. A method according to previous claims, characterized by providing at least

26   the option of the fully automatic or semiautomatic translation (A).

27   10. A method according to previous claims, characterized by providing

28   proportioning means for automatically proportioning the width in said text-

45

1   columns couple to the length of the contained text, after each translation or

2   retranslation.

3   11. A method according to previous claims, characterized by having a system

4   that provides different writing, about missing words after translation.

5   12. A method according to previous claims, characterized by providing

6   automatic charging and unloading means for the text to translate and for the

7   translated text respectively, fragmenting them, in couples of memory fields

8   (C1.C2.C3.C4.C5) horizontally placed in head on the respective control-bar.

9   13. A method according to previous claims, characterized by providing that

10   said accumulating fields (A1,U) is displaceable from above the said couple of

11   main translation and correction fields (F1, B-U), to said control-bar and

12   viceversa.

13   14. A method according to previous claims, characterized by providing for

14   each correction carried out in the translated text, besides the integrated

15   search replace options and of autolearning, the autoactivation of the

16   differentiation of the characters of the word, corrected fragment and

17   corresponding portion of the text to translate, putting them in different

18   characters (F).

19   15. A method according to previous claims, characterized by providing a

20   system that includes the possibility to impute a different teaching (5)

21   depending on context, (electric, electronic, chemical, mechanic, aeronautic,

22   ..., medicine, sporting, clothing, legal, spoken, ...), each able to be activated by

23   a domain code previously assigned before translation.

24   16. A method according to previous claims, providing translation, paragraph

25   by paragraph, from a bottom fields couple to said main couple, and after

26   correction and autolearning (LineByLine, A-M) passing the corrected text to

27   said couple of accumulating fields (A1,U).

28   17. A method according to previous claims, characterized by providing means

1   which make possible after automatic translation phase, the sequential post-

2   editing with correction and checking by a skilled person, in autolearning

3   and search-replace mode, transferring progressively the couple of the first

4   checked paragraphs from said couple of main translation and correction

5   fields (F1, Z), to said couple of accumulating fields (A1, Z) and automatically

6   retranslating the remaining to check, using previous teachings.

7   18. A method according to any of the previous claims, characterized by

8   providing at least a checking window of the autolearning with three

9   checking lines, correction and input (E):

10   • one as fragment of phrase of the text to translate;

11   • one as fragment of phrase translated in a correct way, object of the

12   correction in progress or already carried out;

13   • one as programming semantic code.

14   19. A method according to any of the previous claims, characterized by

15   providing a system supplying the in-line consulting of dictionary with

16   alternative translations (5).

17   20. A method according to any of the previous claims, characterized by

18   providing during the correction in post-editing:

19   • determining the position of the cursor in the correction area or

20   otherwise if memorized a portion by evidencing, calculating automatically

21   the number of the paragraphs and corresponding sentences and words of the

22   translated document, from the origin and,

23   • on the base of the correspondence of the dotting positions, supply in

24   a window in the screen with:

25   • the corresponding portion of the sentence of the document to

26   translate,

27   • the sentence portion previously evidenced in the correction area

28   concerned individuated by the presence of the cursor from the last

1   correction or previously evidenced (H), and

2   - in order to allow to the operator to delimit evidencing the fragment of

3   phrase corresponding to that interested by the correction (I).

4   21. A method according to previous claims, characterized by providing a

5   translation system in which the said electronic dictionary is double, one for

6   one direction and one for the opposite direction (S) and in which both have a

7   series of fields:

8   - for searching the single words to meet during translation (1),

9   - for the following text portion the word under consideration (2);

10 - for the base standard translation (3);

11 - for the program semantic code-s (4) and

12 - for alternative translations personalized with operative sectorial codes (5).

13 22. A method according to previous claims, characterized by providing a

14 translation system in which the control bar of the main interface, has at

15 least one visualisation control for making appear one or more couples of said

16 fields or viceversa.

17 23. A method according to any of the previous claims, characterized by

18 providing a translation system comprising upwards and downwards parallel

19 scrolling means for both fields in the same time of each couple.

20 24. A method according to any of the previous claims, characterized by

21 providing :

22 - a transformation control means from capital to small letters,

23 - a transfer control means between fields and to a Data File,

24 - a copy control means,

25 - a paste control means,

26 - a word counter means,

27 - a lock control means,

28 - a spelling control means,

1   - a "cut returns" control means,

2   - a "START-translation" control means including, automatic or semiautomatic

3   option;

4   - a paragraph by paragraph ("LineByLine") machine-aided translation

5   control means,

6   - an interactive-option translation control means ("TQ"), where each

7   fragment between punctuation is submitted to the operator for check and

8   correction, before recording;

9   - a check and correction control means to allow after an automatic

10   translation:

11   - the transfer in said couple of accumulating fields (A1,U) the

12   checked and corrected sentences from said couple of main

13   translation and correction fields (F1, B-U), and

14   - the retranslation of at least the remaining first paragraph in said

15   said couple of main translation and correction fields (F1, B-U).

16   25. A Method according to claim 17, characterised in that after transfer the

17   checked top pararagraphs text-couple from the said main couple of fields

18   (F1-Z) to the bottom of said accumulating-fields couple (A1), said automatic

19   retranslation is operated on the first top paragraph of the said main couple

20   of fields (F1-Z) of the remaining text to check, in order that in the respective

21   retranslation, waiting time, the operator is allowed to read the previous

22   translation and prepare oneself for amendments after issue of said

23   retranslation in the first paragraph.

24   26. A Method according to claim 25, characterised in that before checking

25   paragraph by paragraph, said retranslation is made only if the interested

26   paragraph to check contains text portions already subjected to previous

27   amendements and autolearning, made between the full automatic first

28   translation and the moment to check.

2000.English >< Italiano

select one option

[Total Quality]   [Line-by-Line]   [Automatic]

(A)   Fig.1

2000.English >< Italiano

C1	C2	C3	C4	C5	A1

- at least one electronic dictionary with sentences and words
correct translation associated for each standard translation
to a code *semantico* of program, that activates during the
translation of a text or text portion, a respective adapting
program of the translation in progress to the part of text
that precedes and/or to the part of text that follows;

- per lo meno un dizionario elettronico con traduzione corretta
di parole e frasi associati per ciascuna traduzione standard ad
un codice semantico di programma, che attiva durante la
traduzione di un testo o porzione di testo, un rispettivo
programma di adattamento della traduzione in corso alla parte
di testo che precede e/o alla parte di testo che segue;

F1

F1

(B)   Fig.2

2000.English >< Italiano

- at least one electronic dictionary with sentences and words
correct translation associated for each standard translation
to a code *semantico* of program, that activates during the
translation of a text or text portion, a respective adapting
program of the translation in progress to the part of text
that precedes and/or to the part of text that follows;

- per lo meno un dizionario elettronico con traduzione corretta
di parole e frasi associati per ciascuna traduzione standard ad
un codice semantico di programma, che attiva durante la
traduzione di un testo o porzione di testo, un rispettivo
programma di adattamento della traduzione in corso alla parte
di testo che precede e/o alla parte di testo che segue;

(C)   Fig.3

2000.English>Italiano

- at least one electronic dictionary with sentences and words
correct translation associated for each standard translation
to a code semantico di program that activates during the
translation of a text or text portion, a respective adapting
program of the translation in progress

that precedes and/or to the part of tex

- per lo meno un dizionario elettronico con traduzione corretta
di parole e frasi associati per ciascuna traduzione standard ad
un codice semantico di programma, che attiva durante la
traduzione di un testo o porzione di testo, un rispettivo
lla traduzione in corso alla parte
arte di testo che segue;

do you want to change all?
code semantico of program
correct following line to change

programming semantic code

OK   Cancel

(D)   Fig.4

2000.English>Italiano

- at least one electronic dictionary with sentences and words
correct translation associated for each standard translation
to a programming semantic code, that activates during
the translation of a text or text portion,
program of the translation in progress
that precedes and/or to the part of tex

- per lo meno un dizionario elettronico con traduzione corretta
di parole e frasi associati per ciascuna traduzione standard ad
un codice semantico di programma, che attiva durante la
one di testo, un rispettivo
lla traduzione in corso alla parte
arte di testo che segue;

< 6 words in first line

codice semantico di programma
programming semantic code
soms

OK .   Cancel

(E)   Fig.5

2000.English>Italiano

- at least one electronic dictionary with sentences and words
correct translation associated for each standard translation
to a programming semantic code, that activates during
the translation a text or text portion, a respective adapting
program of the translation in progress to the part of text
that precedes and/or to the part of text that follows;

- per lo meno un dizionario elettronico con traduzione corretta
di parole e frasi associati per ciascuna traduzione standard ad
un codice semantico di programma, che attiva durante la
traduzione di un testo o porzione di testo, un rispettivo
programma di adattamento della traduzione in corso alla parte
di testo che precede e/o alla parte di testo che segue;

(F)   Fig.6

2000.English><Italiano

- means for the sequential analysis of the subsequent words and/or sentence fragments of the text to translate, associated to confront means of the said words or sentence fragments, to individuate materially or virtually also with declination or base or root, it their presence to said electronic dictionary, to render possible a translation:

- mezzi per l'analisi sequenziale delle successive parole e/o frammenti di frase del testo da tradurre, associati a mezzi di raffronto delle dette parole o frammenti di frase, per individuare materialmente o virtualmente anche con declinazione o base o radice, la loro presenza nel detto dizionario elettronico, per rendere possibile una traduzione;

(G)   Fig.7

2000.English><Italiano

- means for the sequential analysis of the subsequent words and/or sentence fragments of the text to translate, associated to confront means of the said words or sentence fragments, to individuate materially or virtually also with declination or base or root, it their presence to said electronic dictionary, to render pos

- mezzi per l'analisi sequenziale delle successive parole e/o frammenti di frase del testo da tradurre, associati a mezzi di raffronto delle dette parole o frammenti di frase, per individuare materialmente o virtualmente anche con declinazione o base o radice, la loro presenza nel detto dizionario elettronico, ssibile una traduzione;

do you want to change all?
confront means
correct following line to change

comparing means

OK   Cancel

(H)   Fig.8

2000.English><Italiano

- means for the sequential analysis of the subsequent words and/or sentence fragments of the text to translate, associated to comparing means of the said words or sentence fragments, to individuate materially or virtually also with declination or base or root, it their presence to said electronic dictionary, to

- mezzi per l'analisi sequenziale delle successive parole e/o frammenti di frase del testo da tradurre, associati a mezzi di raffronto delle dette parole o frammenti di frase, per individuare materialmente o virtualmente anche con declinazione o base o radice, la loro presenza nel detto dizionario elettronico, ssibile una traduzione;

< 6 words in first line

associati a mezzi di raffronto delle dette parole o frammenti di frase
comparing means
soms

OK   Cancel

(I)   Fig.9

- means for the sequential analysis of the subsequent words and/or sentence fragments of the text to translate, associated to comparing means of the said words or sentence fragments, to individuate materially or virtually also with declination or base or root. It their presence to said electronic dictionary, to

- mezzi per l'analisi sequenziale delle successive parole e/o frammenti di frase del testo da tradurre, associati a mezzi di raffronto delle dette parole o frammenti di frase, per individuare materialmente o virtualmente anche con declinazione o base o radice, la loro presenza nel detto dizionario elettronico, ssibile una traduzione;

control teaching
controlla l'insegnamento

mezzi di raffronto
comparing means
soms

[OK]   [Cancel]

(J)   Fig.10

- means for the sequential analysis of the subsequent words and/or sentence fragments of the text to translate, associated to comparing means of the said words or sentence fragments, to individuate materially or virtually also with declination or base or root, it their presence to said electronic dictionary, to

- mezzi per l'analisi sequenziale delle successive parole e/o frammenti di frase del testo da tradurre, associati a mezzi di raffronto delle dette parole o frammenti di frase, per individuare materialmente o virtualmente anche con declinazione o base o radice, la loro presenza nel detto dizionario elettronico, ssibile una traduzione;

do you want to change all?
it their
correct following line to change

their

[OK]   [Cancel]

(K)   Fig.11

- means for the sequential analysis of the subsequent words and/or sentence fragments of the text to translate, associated to comparing means of the said words or sentence fragments, to individuate materially or virtually also with declination or base or root, their presence to said electronic dictionary, to

- mezzi per l'analisi sequenziale delle successive parole e/o frammenti di frase del testo da tradurre, associati a mezzi di raffronto delle dette parole o frammenti di frase, per individuare materialmente o virtualmente anche con declinazione o base o radice, la loro presenza nel detto dizionario r rendere possibile una traduzione;

do you want to change all?
presence to
correct following line to change

presence into

[OK]   [Cancel]

(L)   Fig.12

2000.English><Italiano

- means for the sequential analysis of the subsequent words and/or sentence fragments of the text to translate, associated to comparing means of the said words or sentence fragments, to individuate materially or virtually also with declination or base or root, their presence into said electronic dictionary, to render possible a translation;

- mezzi per l'analisi sequenziale delle successive parole e/o frammenti di frase del testo da tradurre, associati a mezzi di raffronto delle dette parole o frammenti di frase, per individuare materialmente o virtualmente anche con declinazione o base o radice, la loro presenza nel detto dizionario elettronico, per rendere possibile una traduzione;

(M) Fig.13

2000.English><Italiano

This invention has for object a computer translation System with intervention of the operator to obtain a translation quality that depends from the capacity of the operator.
Functional range
This invention, starting from a text of a certain language, memorized or memorisable in the computer, to produce texts in other languages, one applies preferably, even if not exclusively, in the sector of the interactive translation, *sie* the automatic with *postcorrezione* of the operator that semiautomatic with correction of the operator during the evolution of the translation.
State of the art
In prior art exist a plurality of machine translation systems. Well-known are the following:
US 5677835 - Oct. 14, 1997 to Caterpillar name Inc., *Peoria*, The uses, refers to a method with computer integrated for information development *monolingua* and multilingual translation

Il presente trovato ha per oggetto un Sistema perfezionato di traduzione al computer con intervento dell'operatore per ottenere una qualità di traduzione che dipende dalla capacità dell'operatore.
Campo di applicazione
Il presente trovato, partendo da un testo di una determinata lingua, memorizzato o memorizzabile nel computer, per produrre testi in altre lingue, si applica preferibilmente, seppur non esclusivamente, nel settore della traduzione interattiva, sie essa automatica con postcorrezione dell'operatore che semiautomatica con correzione dell'operatore durante l'evolversi della traduzione.
Stato della tecnica
Allo stato attuale della tecnica esistono una grande pluralità di sistemi di traduzione a macchina.
I più noti sono i seguenti:
US 5677835 - Oct. 14, 1997 a nome Caterpillar Inc., Peoria, IL USA, si riferisce a un metodo con computer integrato per sviluppo di informazioni monolingua e traduzione multilingua

(N) Fig.14

2000.English><Italiano

Functional range
This invention, starting from a text of a certain language, memorized or memorisable in the computer, one applies preferably, even if not exclusively, in the sector of the interactive translation, *sie* the automatic with *postcorrezione* of the operator that semiautomatic with correction of the operator during the evolution of the translation.
State of the art
In prior art exist a plurality of machine translation systems. Well-known are the following:
US 5677835 - *Oct. 14, 1997* to Caterpillar name Inc., *Peoria*, The uses, refers to a method with computer integrated for information development *monolingua* and multilingual translation.
An interactive text editor that obliges constraints *lessicali* and grammatical on a subtogether of natural language used by the authors to create their text, that help them to remove the ambiguities to make sure *traducibilità*

Campo di applicazione
Il presente trovato, partendo da un testo di una determinata lingua, memorizzato o memorizzabile nel computer, per produrre testi in altre lingue, si applica preferibilmente, seppur non esclusivamente, nel settore della traduzione interattiva, sie essa automatica con postcorrezione dell'operatore che semiautomatica con correzione dell'operatore durante l'evolversi della traduzione.
Stato della tecnica
Allo stato attuale della tecnica esistono una grande pluralità di sistemi di traduzione a macchina.
I più noti sono i seguenti:
US 5677835 - Oct. 14, 1997 a nome Caterpillar Inc., Peoria, IL USA, si riferisce a un metodo con computer integrato per sviluppo di informazioni monolingua e traduzione multilingue.
Un editore di testo interattivo che costringe costrizioni lessicali e grammaticali su un subinsieme di lingua naturale usato dagli autori per creare il loro testo, che lo aiutano a togliere le ambiguità per assicurare traducibilità

(O) Fig.15

2000 English»«Italiano

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This invention, starting from a text of a certain language, memorized or memorisable in the computer, to produce texts in other languages, applies preferably, even if not exclusively, in the sector of the interactive translation, 8/E the automatic with postcorrezion of the operator that semiautomatic with correction of the operator during the evolution of the translation.
State of the art
In prior art exist a plurality of machine translation systems. Well-known are the following:
US 5677835 - Oct. 14, 1997 to Caterpillar name Inc., Peoria.
The uses, refers to a method with computer integrated for information development monolingua and multilingual translation.
An interactive text editor that obliges constraints lessicab and grammatical on a subtogether of natural language used by the authors to create their text, that help them to remove the ambiguities to make sure traducibilità.
The translatable text of the resulting source language

Il presente trovato, partendo da un testo di una determinata lingua, memorizzato o memorizzabile nel computer, per produrre testi in altre lingue, si applica preferibilmente, seppur non esclusivamente, nel settore della traduzione interattiva, sie essa automatica con postcorrezione dell'operatore che semiautomatica con correzione dell'operatore durante l'evolversi della traduzione.
Stato della tecnica
Allo stato attuale della tecnica esistono una grande pluralità di sistemi di traduzione a macchina.
I più noti sono i seguenti:
US 5677835 - Oct. 14, 1997 a nome Caterpillar Inc., Peoria, IL USA, si riferisce a un metodo con computer integrato per sviluppo di informazioni monolingua e traduzione multilingue.
Un editore di testo interattivo che costringe costrizioni lessicali e grammaticali su un subinsieme di lingua naturale usato dagli autori per creare il loro testo, che lo aiutano a togliere le ambiguità per assicurare traducibilità.
Il testo traducibile del linguaggio d'origine risultante subisce la

(P)   Fig.16

2000 English»«Italiano

Persc					Descript	Exp Import Shift Linc By Line Print Find Clear	DISCRIZI
This					This un	Licensed to: D'Agostino	Electronics	NW	12	11	11 pres
Insci						English»«Italiano	10 - HO3	229		

This invention, starting from a text of a certain language, memorized or memorisable in the computer, to produce texts in other languages, applies preferably, even if not exclusively, in the sector of the interactive translation, both for automatic with postcorrezione of the operator and semiautomatic with correction of the operator during the evolution of the translation.
State of the art
In prior art ex
Well-known ar
US 5677835
The uses, refe
information de
translation.
An interactive
and grammati
the authors to create their text, that help them to remove the ambiguities to make sure traducibilità.
The translatable text of the resulting source language

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postcorrezione
correct following line to change

postediting

[OK]   [Cancel]

Il presente trovato, partendo da un testo di una determinata lingua, memorizzato o memorizzabile nel computer, per produrre testi in altre lingue, si applica preferibilmente, seppur non esclusivamente, nel settore della traduzione interattiva, sie essa automatica con postcorrezione dell'operatore che semiautomatica con correzione dell'operatore durante l'evolversi della traduzione.
Stato della tecnica
stato attuale della tecnica esistono una grande pluralità di emi di traduzione a macchina.
noti sono i seguenti:
5677835 - Oct. 14, 1997 a nome Caterpillar Inc., Peoria, SA, si riferisce a un metodo con computer integrato per ppo di informazioni monolingua e traduzione multilingue.
ditore di testo interattivo che costringe costrizioni icali e grammaticali su un subinsieme di lingua naturale usato dagli autori per creare il loro testo, che lo aiutano a togliere le ambiguità per assicurare traducibilità.
Il testo traducibile del linguaggio d'origine risultante subisce la

(Q)   Fig.17

This invention, starting from a text of a certain language, memorized or memorisable in the computer, to produce texts in other languages, applies preferably, even if not exclusively, in the sector of the interactive translation, *both for* automatic with *postediting* of the operator and semiautomatic with correction of the operator during the evolution of the translation.

State of the a

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Il presente trovato, partendo da un testo di una determinata lingua, memorizzato o memorizzabile nel computer, per produrre testi in altre lingue, si applica preferibilmente, seppur non esclusivamente, nel settore della traduzione interattiva, sie essa automatica con **postcorrezione** dell'operatore che semiautomatica con correzione dell'operatore durante l'evolversi della traduzione.

o della tecnica

stato attuale della tecnica esistono una grande pluralità di emu di traduzione a macchina.

noti sono i seguenti:

5677835 - Oct. 14, 1997 a nome Caterpillar Inc., Peoria, 6A, si riferisce a un metodo con computer integrato per ppo di informazioni monolingua e traduzione multilingue. ditore di testo interattivo che costringe costrizioni icali e grammaticali su un subinsieme di lingua naturale o dagli autori per creare il loro testo, che lo aiutano a ere le ambiguità per assicurare traducibilità.

(R)   Fig.18

2000 English><Italiano

(S)   Fig.19

This invention has for object an Automatic or semiautomatic translation system and method with postediting for the correction of the errors.

In particular the invention refers to a computer translation improved system and method with intervention of the operator to obtain a high professional level translation quality depending on capacity of the operator that checks the translation of the computer.

The technical field consequently is of high professional level in the field of the computer assisted translation, starting from a text of a certain language, memorized or memorisable in the computer, to produce texts in other languages in a manner checked by the operator:

Il presente trovato ha per oggetto un Sistema e metodo di traduzione automatico o semiautomatico con posteditazione per la correzione degli errori: In particolare l'invenzione si riferisce ad un sistema e metodo perfezionato di traduzione al computer con intervento dell'operatore per ottenere una qualità di traduzione di alto livello professionale dipendente dalla capacità dell'operatore che controlla la traduzione del computer

Campo di applicazione

Il campo di applicazione pertanto è quello di alto livello professionale nel campo della traduzione assistita al computer, partendo da un testo di una determinata lingua, memorizzato o memorizzabile nel computer, per produrre testi in altre lingue in modo controllato e verificato dall'operatore:

(T)   Fig.20

Fig.21 (U)

The technical field consequently is of high professional level in the field of the computer assisted translation, starting from a text of a certain language, memorized or memorisable in the computer, produce texts in other languages in a manner checked by the operator:

Il campo di applicazione pertanto è quello di alto livello professionale nel campo della traduzione assistita al computer, partendo da un testo di una determinata lingua, memorizzato o memorizzabile nel computer, produrre testi in altre lingue in modo controllato e verificato dall'operatore:

L1

(U)   Fig.21

(V)   Fig.22

Fig.23 (Z)

Of the economic success of operating companies respectively. Offerers by communication systems which in the following with exchange unit are generally characterised particularly it depends, if they for example in the to to be intended for example by country borders delimited area a complete cover for their subscribers, which for example a stationary respectively. movable telephone unit in the following user unit called that-want want to, be able to offer.

For exchange units, that subsequent a market share in an already of competitors (first exchange unit) covered area to allow.

In order to be able to reach such a national cover, have for subsequent in the competition boarding respectively. exchange units operating locally (second exchange unit) general two alternatives develops, that are known under the concepts "National roaming" and "Indirect roaming".

In the „National roaming" are closed between two inside a country border operating exchange units contracts, that allow either one of the contract party the use of the network of the other contract party (Unliteral case) or both contract parties the right of the use of the other to the contract party connected net allow.

In contrast to these are closed in the „Indirect roaming"

Der wirtschaftlichen Erfolg von Betreiber bzw. Anbieter von Kommunikationssystemen welche im folgenden mit Vermittlungseinheit allgemein gekennzeichnet werden hängt insbesondere davon ab, ob sie beispielsweise in dem zu beabsichtigenden, beispielsweise durch Landesgrenzen abgegrenzten Gebiet eine vollständige Abdeckung für deren Abonnenten, welche beispielsweise eine stationäre bzw. mobile Telefoneinheit im folgenden Nutzereinheit genannt –verwenden wollen, anbieten können.

Für Vermittelungseinheiten, die nachträglich einen Marktanteil in einem bereits von Mitkonkurrenten (erste Vermittelungseinheit) abgedeckten Gebiet zu ermöglichen.

Um eine derartige nationale Abdeckung erreichen zu können, haben sich für nachträglich in den Wettbewerb einsteigende bzw. lokal operierende Vermittelungseinheiten (zweite Vermittelungseinheit) allgemein zwei Alternativen entwickelt, die unter den Begriffen "National roaming" und "Indirect roaming" bekannt sind.

Beim „National roaming" werden zwischen zwei innerhalb einer Landesgrenze operierenden Vermittelungseinheiten Verträge geschlossen, die entweder einem der Vertragspartner die Nutzung des Netzes des anderen Vertragspartners erlauben (Unliteral case) oder beiden Vertragspartnern das Recht der Nutzung des anderen an den Vertragspartner angeschlossenen

(Z)   Fig.23

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7   G06F17/28

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7   G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 99 45476 A (AGOSTINI GIOVANNI D ;AGOSTINI ORGANIZZAZIONE S R L (IT)) 10 September 1999 (1999-09-10) abstract; figure 5 ---	1,2
A	EP 0 672 989 A (TOPPAN PRINTING CO LTD) 20 September 1995 (1995-09-20) abstract; figure 7 ---	1
A	AMANO S: "THE TOSHIBA MACHINE TRANSLATION SYSTEM" FUTURE GENERATIONS COMPUTER SYSTEMS,NL,ELSEVIER SCIENCE PUBLISHERS. AMSTERDAM, vol. 2, no. 2, 1 June 1986 (1986-06-01), pages 121-123, XP000648175 ISSN: 0167-739X figure 4 ---	1

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| X | Further documents are listed in the continuation of box C. | | X | Patent family members are listed in annex. |

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
8 June 2001	19/06/2001

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Triest, J

Form PCT/ISA/210 (second sheet) (July 1992)

Interr · Application No
PCT/IT 01/00128

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
A	LEAVITT J R R ET AL: "TOOLING THE LEXICON ACQUISITION PROCESS FOR LARGE-SCALE KBMT" PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON TOOLS WITH ARTIFICIAL INTELLIGENCE,US,LOS ALAMITOS, CA: IEEE COMPUTER SOC, vol. CONF. 6, 6 November 1994 (1994-11-06), pages 283-289, XP000523651 ISBN: 0-8186-6787-7 figure 2	1

INTERNATIONAL SEARCH REPORT

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EP 0672989	A	20-09-1995	JP 7253981 A JP 7253982 A JP 7253983 A JP 7253984 A US 5659765 A		03-10-1995 03-10-1995 03-10-1995 03-10-1995 19-08-1997